

Discovery of a deep-sea echiuran in the North-East tropical Atlantic, with redescription of the species

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KEY WORDS

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ABSTRACT

This report contains a redescription of *Alomasoma chaetiferum* Zenkevitch, 1958, a deep-sea bonellid (Bonelliidae) that was collected off the coast of Mauritania (18°31.1'N - 21°2.8'W) in the North-East tropical Atlantic. The discovery of this species at the above locality is the first record of its occurrence in the Atlantic Ocean and now considerably extends its range of distribution.

RÉSUMÉ

Cet article redécrit *Alomasoma chaetiferum* Zenkevitch, 1958, espèce abyssale de bonellides (Bonelliidae), récoltée au large de la côte de Mauritanie (18°31,1'N - 21°2,8'W) dans le nord-est de l'océan Atlantique tropical. C'est la première fois que cette espèce est récoltée dans l'océan Atlantique ; cette découverte étend considérablement son aire de répartition.

INTRODUCTION

The author received a single deep-sea bonellid (Phylum: Echiura) through the courtesy of Dr. Joëlle Galeron (CENTOB, IFREMER, Brest) for the purpose of identification. The specimen was collected with a beam-trawl during the cruise EUMELI 3 that was undertaken off Mauritania ($18^{\circ}31.1'N - 21^{\circ}2.8'W$) in the North-East tropical Atlantic, under Dr. Guy Jacques as chief scientist in September 1991.

EUMELI is associated with the National Programme of Ocean Flow and is the French contribution to the international programme entitled "Joint Global Ocean Flux Study" (JGOFS) of the International Council of Scientific Unions.

Family BONELLIIDAE Baird, 1868

Genus *Alomasoma* Zenkevitch, 1958

Alomasoma chaetiferum Zenkevitch, 1958
(Fig. 1A-D)

MATERIAL. — One sexually mature ♀, off Mauritania, Campaign EUMELI 3 CPH 13, collected 16.I.91, locality coordinates $18^{\circ}31.1'N - 21^{\circ}2.8'W$, depth 3108 m.

DESCRIPTION

The proboscis is missing in the preserved specimen. Trunk is pale pink, more or less pear-shaped, 60 mm in length and 27 mm across broadest part, broad at anterior end but gradually tapering posteriorly (Fig. 1A). Small round to oval papillae are closely aggregated at anterior and posterior ends of trunk; middle region is smooth and devoid of papillae. Integument is opaque at extremities of trunk but thin and somewhat translucent in middle region. Only the basal part of one of the members of the pair of setae is present. An interbasal muscle between the setae is absent. A single genital pore is situated just behind the setae, about 4 mm from the junction of proboscis and trunk.

Internally, dorsal and neurointestinal vessels connect indirectly without a ring sinus (Fig. 1B). Alimentary canal long and coiled with a narrow intestinal siphon. Pharynx is bulbous, clearly

demarcated from oesophagus (Fig. 1B). Intestinal contents moulded into round to oval faecal pellets of variable size. Few thin mesenteric strands fasten alimentary canal to body wall.

Gonoducts one pair (Fig. 1C), sac-like, on either side of nerve cord, compactly filled with eggs. Gonostome basal in position, gonostomal lip with frilly margin and located on a short stalk.

Anal vesicles are two sac-like structures projecting from posterior end of rectum and bearing numerous elongate, brown excretory tubules (Fig. 1D). Excretory tubules are unbranched terminating in ciliated funnels.

No dwarf males were found associated with the female.

REMARKS

The genus *Alomasoma* Zenkevitch is distinguished in possessing a grooved proboscis with an undivided tip, a pair of gonoducts with basal gonostomes and a single gonopore. The anal vesicles are sac-like structures into which open numerous, unbranched excretory tubules. Ventral setae may or may not be present (Stephen & Edmonds 1972).

The genus *Amalosoma* Fisher, 1948 is closely related to *Alomasoma* but differs in possessing a specialized genital slit anterior to the gonopores and in lacking ventral setae. Also, in the genus *Amalosoma*, the two gonoducts open separately to the exterior and the excretory tubules of the anal vesicles open independently into the rectum.

The species *A. chaetiferum* is originally described by Zenkevitch (1958) from two specimens from the Aleutian Trench at a depth of 7268 m. Biseswar (1993) identified and described two sexually mature females of this species that were collected on an expedition that was undertaken to the Lau Basin ($22^{\circ}33'S - 176^{\circ}43'W$) in the South-West Pacific. The specimen on hand is ascribed to *A. chaetiferum* as it possesses a single gonopore and a pair of ventral setae. The structure of the anal vesicles, also, closely approaches the description provided by Zenkevitch (1958). This specimen with a trunk length of 60 mm is also larger than those described previously.

Four species are currently known in the genus *Alomasoma*, namely: *A. chaetiferum* Zenkevitch,

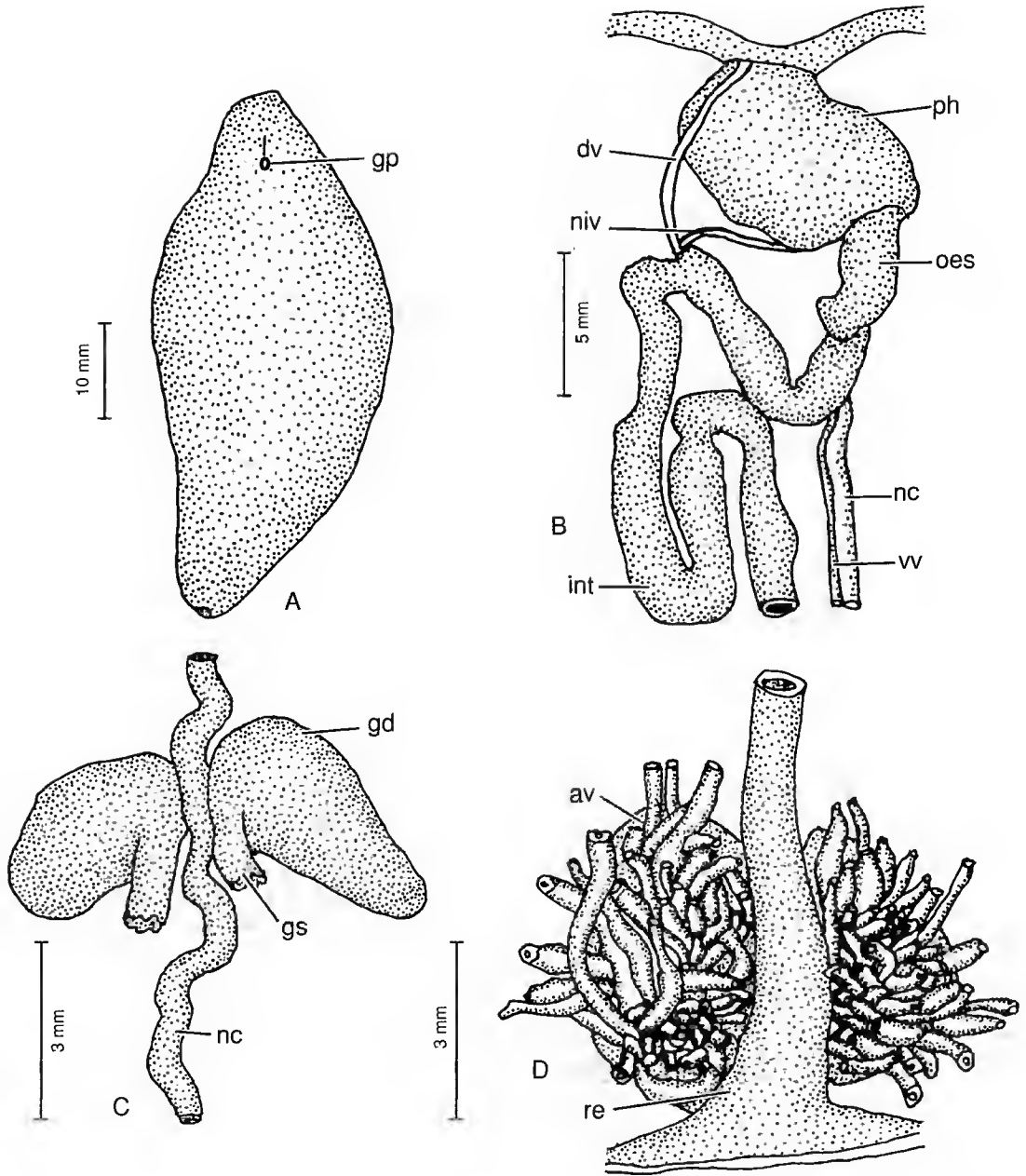


Fig. 1. — *Alomasoma chaetiferum*: **A**, ventral view of female; **B**, internal morphology; **C**, gonoducts; **D**, anal vesicles. **av**, anal vesicle; **dv**, dorsal vessel; **gd**, gonoduct; **gp**, gonopore; **gs**, gonostome; **int**, intestine; **nc**, nerve cord; **niv**, neurointestinal vessel; **oes**, oesophagus; **ph**, pharynx; **re**, rectum; **vv**, ventral vessel.

1958; *A. nordpacificum* Zenkevitch, 1958; *A. belyaevi* Zenkevitch, 1964 and *A. rhynchollulus* Datta Gupta, 1981. All the species have been recovered from great depths. Zenkevitch (1966) assigned some specimens, collected by the *Galathea* Expedition, to this genus.

The present specimen from the North-East tropical Atlantic corresponds with the description given by Zenkevitch (1958) but differs slightly from the description given by Biseswar (1993) in the structure of the anal vesicles. *Alomasoma nordpacificum* is morphologically very similar to *A. chaetiferum* but differs in lacking ventral setae and in possessing a gonostome that is located on a long stalk.

The discovery of *A. chaetiferum* off the coast of Mauritania is the first record of its occurrence in the Atlantic Ocean and now considerably extends its range of distribution.

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